REMARKS

Claims 4, 6-12 and 14-21 are present in the application. In view of the remarks that follow, Applicants respectfully request reconsideration of the application.

Allowable Subject Matter

Noted with appreciation is the indication in the Office Action that Claims 12, 14, 19 and 21 have been allowed.

Compliance with Second Paragraph of 35 U.S.C. §112

The Office Action rejected Claims 4 and 15 under the second paragraph of 35 U.S.C. §112 as indefinite. In this regard, Claim 4 recites that "no ARQ block includes any tail bits, and the physical layer frame includes multiple tail bits". Claim 15 recites that "the overhead bits include cyclic redundancy code (CRC) bits but no tail bits, and wherein one or more tail bits are appended to the frame structure". These grounds of rejection are respectfully traversed. First, the basis for these rejections is not entirely clear. The Office Action refers to Figure 2 of the present application and indicates that, as to each of Claims 4 and 15, it is not clear where the tail bits are located. As best understood, the Office Action seems to be questioning whether the quoted limitations from Claims 4 and 15 are consistent with the embodiment of Figure 2. But Figure 2 is merely one exemplary embodiment, and the invention is not limited to just this one embodiment. As discussed in the sentence that bridges pages 6-7 of Applicants' specification, "the frame structure 50 [of Figure 2] provides several degrees of freedom, all or part of which may be selectively adopted for different embodiments". Therefore, and even assuming that Claims 4 and 15 are directed to embodiments different from the embodiment of Figure 2, this does not automatically mean that Claims 4 and 15 are indefinite. The issue of whether these limitations read onto Figure 2 is irrelevant to the issue of whether these limitations are definite under the second paragraph of §112. The Office Action does not give any clear reason as to why

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these quoted limitations might possibly be considered to be indefinite. Applicants have reviewed the quoted portions of Claims 4 and 15, and believe that these limitations are in fact quite clear and definite regarding where the recited tail bits are located. Applicants therefore respectfully submit that the indicated limitations from Claims 4 and 15 are fully definite under the second paragraph of §112, and notice to that effect is respectfully requested. If the Examiner continues to be of the opinion that Claims 4 and 15 are indefinite, it is respectfully requested that the Examiner issue a new §112 rejection that explains in more detail why the indicated limitations from Claims 4 and 15 might possibly be considered indefinite.

The Office Action rejects independent Claims 7, 10 and 11 under the second paragraph of §112 as indefinite, and also rejects Claim 6 because it depends from Claim 7. These grounds of rejection are respectfully traversed, for the following reasons. Claim 7 recites that "the number of ARQ blocks is responsive to the environment for producing a relatively high throughput". The Office Action asserts that this phrase is indefinite because it is not clear what structure causes this to happen. Claim 10 recites that "the number of FEC blocks and ARQ blocks are modifiable to balance requirements for data transmission and voice transmission". The Office Action asserts that this phrase is indefinite because it is not clear what structure causes this to happen. Claim 11 recites that "the number of FEC blocks and ARQ blocks are modifiable to promote efficient operation depending on a wireless environment and mobile station complexity". The Office Action asserts that this phrase is indefinite because it is not clear what structure causes this to happen. However, Claims 7, 10 and 11 do recite the structure in question. In particular, these claims each recite "a node . . . which transmits wireless signals that include . . .one or more forward error control (FEC) blocks . . ., each FEC block being subdivided into one or more automatic repeat request (ARQ) blocks". The "node" recited in each of these claims is in fact structure, and it is respectfully submitted that persons skilled in the art will readily understand from the language of Claims 7, 10 and 11 that these claims are each specifying that the recited structural "node" is what determines "the number of" ARQ and/or FEC blocks, based on a respective specified criteria. Therefore, and contrary to the assertions in the

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Office Action, it is respectfully submitted that Claims 7, 10 and 11 do in fact recite the structure that determines the number of ARQ and/or FEC blocks, and notice to that effect is respectfully requested.

The Office Action also rejected Claims 11 and 20 under the second paragraph of §112 as indefinite, asserting that the phrase "mobile station complexity" is indefinite. This ground of rejection is respectfully traversed. The meaning of "moble station complexity" is understood by persons skilled in the art. The Office Action requested that Applicants reference to the specification, so that metes and bounds can be determined. Accordingly, the attention of the Examiner is respectfully directed to the last paragraph on page 2, lines 13-15 on page 4, and the sentence bridging pages 11-12, where the phrase "mobile station complexity" is used in context.

Allowability of Claims 4, 6, 10-11, 15 and 20

As discussed above, Claims 4, 6, 10-11, 15 and 20 were rejected under §112. However, for reasons discussed above, Claims 4, 6, 10-11, 15 and 20 are believed to be in compliance with §112. Therefore, and since these claims are not subject to any rejection on the merits, these claims are believed to be allowable, and notice to that effect is respectfully requested.

Claims 7 and 16, and 35 U.S.C. §102

The Office Action rejects each of Claims 7 and 16 under 35 U.S.C. §102 as anticipated by Jayapalan U.S. Patent No. 5,533,019. These grounds of rejection are respectfully traversed, for the following reasons. The PTO specifies in MPEP §2131 that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim.

With respect to Claim 7, the Office Action notes that Claim 7 recites "a node of a spread spectrum wireless network", and then states that this limitation is deemed to be an indication of intended use and therefore will be given no patentable weight. However, this limitation is an integral part of the body of Claim 7 and is in fact a recitation of structure, and therefore must be

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given patentable weight. To the extent that Jayapalan fails to disclose such a node, Jayapalan does not anticipate Claim 7 under §102, because Jayapalan does not disclose each and every element recited in Claim 7, as required by MPEP §2131.

In addition, Claims 7 and 16 each expressly recite that "the number of ARQ blocks is responsive to the environment for producing a relatively high throughput". The Office Action asserts that "ARQ is inherently response [sic] to the noisy environment to retransmit data and reproduce data for relatively high throughput". However, this statement differs from what Claims 7 and 16 actually recite. In particular, what Claims 7 and 16 each recite is that "the number of ARQ blocks" is varied. The Jayapalan patent only mentions "ARQ" twice, namely in the first few lines of column 7. This mention of ARQ in Jayapalan is vague and, as best understood, does not include any clear disclosure that the number of ARQ blocks is being varied, much less as a function of the specific criteria recited in Claim 7 or the specific criteria recited in Claim 16. Jayapalan thus does not appear to disclose each and every element recited in Claims 7 and 16, and therefore does not meet the requirement set forth in MPEP §2131. Accordingly, it is respectfully submitted that Jayapalan does not anticipate Claims 7 and 16 under §102, and notice to that effect is respectfully requested.

Claims 8 and 17, and 35 U.S.C. §102

The Office Action rejects Claims 8 and 17 under 35 U.S.C. §102 as anticipated by Jayapalan U.S. Patent No. 5,533,019. These grounds of rejection are respectfully traversed, for the following reasons. As mentioned above, MPEP §2131 specifies that, in order for a reference to anticipate a claim under §102, the reference must teach each and every element recited in the claim.

With respect to Claim 8, the Office Action makes reference to the rejection of Claim 7. As discussed above, Claim 7 recites "a node of a spread spectrum wireless network", and the rejection of Claim 7 states that this limitation is deemed to be an indication of intended use and therefore will be given no patentable weight. Claim 8 also recites "a node of a spread spectrum

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wireless network", and this limitation in Claim 8 has apparently been given no patentable weight. However, this limitation is in the body of Claim 8 and is in fact a recitation of structure, and therefore must be given patentable weight. To the extent that Jayapalan fails to disclose such a node, Jayapalan does not anticipate Claim 8 under §102, because Jayapalan does not disclose each and every element recited in Claim 8, as required by MPEP §2131.

In addition, Claim 8 recites that "the number of ARQ blocks is responsive to whether the information is voice or data", and Claim 17 recites that "the number of ARQ blocks is responsive to whether the communication type is voice or data". The Office Action states that Jayapalan discusses both voice and data, and then asserts that "ARQ is responsive to whether the information is voice or data". However, this statement differs from what Claims 8 and 17 actually recite. In particular, what Claims 8 and 17 each recite is that "the number of ARQ blocks" is varied. The Jayapalan patent only mentions "ARQ" twice, namely in the first few lines of column 7. This mention of ARQ in Jayapalan is vague and, as best understood, does not include any clear disclosure that the number of ARQ blocks is being varied, much less as a function of the specific criteria recited in Claim 8 or the specific criteria recited in Claim 17. Therefore, Jayapalan does not appear to disclose each and every element recited in Claims 8 and 17, and thus does not meet the requirement set forth in MPEP §2131. Accordingly, it is respectfully submitted that Jayapalan does not anticipate Claims 8 and 17 under §102, and notice to that effect is respectfully requested.

Claims 9 and 18, and 35 U.S.C. §103

Claims 9 and 18 stand rejected under 35 U.S.C. §103, as obvious in view of the Jayapalan patent. This ground of rejection is respectfully traversed, for the following reasons.

First, the basis for these rejections is not entirely clear. More specifically, in explaining the rejection of Claim 9, the Office Action starts out by saying "refer to Claim 7". Further, in rejecting Claim 18, the Office Action starts out by saying "refer to Claim 9" (and as just mentioned, the discussion of Claim 9 refers to Claim 7). However, Claims 9 and 18 are both

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standalone independent claims, and do not depend from or otherwise have any relationship to Claim 7. Consequently, the reference to Claim 7 in a rejection of Claims 9 and 18 is unclear and confusing. Moreover, Claim 7 has been rejected under §102 (as discussed above), but is not subject to a rejection for obviousness under §103. The requirements for a rejection under §102 are different from the requirements for a rejection under §103. The reference to Claim 7 within a §103 rejection of Claims 9 and 18 is thus unclear and confusing, because the Office Action does not include any discussion of the subject matter of Claim 7 in association with §103.

Turning in more detail to the merits of the §103 rejection, the explanation of the rejection states that the FEC blocks in Jayapalan include MDLP blocks with Reed Solomon encoding, and then goes on to assert that a number of codes are known in the art and that a person of ordinary skill would have been motivated to substitute a convolutional code for the Reed Solomon code in order to improve communication reliability. This assertion is respectfully traversed. As recognized by the PTO in MPEP §2142:

> The examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness.

In the present case, Jayapalan does not support a prima facie case of obviousness with respect to Claims 9 and 18, for mutually exclusive reasons that are discussed below.

JAYAPALAN FAILS TO TEACH A DISTINCTIVE CLAIM LIMITATION

Claim 9 recites that "the overhead bits of the ARQ blocks effectively block the Convolutional FEC code". Similarly, Claim 18 recites that "the overhead bits of the ARQ blocks effectively blocks the Convolutional FEC code". The Office Action does not discuss either of these limitations from Claims 9 and 18, nor does the Office Action indicate that Jayapalan has an

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ARQ block with overhead bits that effectively block a convolutional FEC code. Moreover, the Office Action does not include any indication that Jayapalan could be modified to include an ARQ block with overhead bits that effectively block a convolutional FEC code. Thus, Jayapalan does not teach all of the limitations set forth in Claims 9 and 18. The provisions of MPEP §2142 specify with respect to §103 that:

> To establish a *prima facie* case of obviousness . . . the prior art
> reference (or references when combined) must teach or suggest all
> the claim limitations. (Emphasis added).

Here, Jayapalan does not teach all of the limitations set forth in Claims 9 and 18. Accordingly, it is respectfully submitted that the Office Action fails to establish a prima facie case of obviousness under §103 with respect to either of Claims 9 and 18.

THE PROPOSED MODIFICATION OF JAYAPALAN IS IMPROPER

Even assuming that the foregoing argument does not apply (which is clearly not the case), there is yet another independent and compelling reason why the proposed modification of Jayapalan is not proper under §103. In this regard, MPEP §2142 provides that:

> To reach a proper determination under §103, the examiner must
> step backward in time and into the shoes worn by the hypothetical
> "person of ordinary skill in the art" when the invention was
> unknown and just before it was made. . . . Knowledge of
> applicant's disclosure must be put aside in reaching this
> determination, . . . impermissible hindsight must be avoided, and
> the legal conclusion must be reached on the basis of the facts
> gleaned from the prior art.

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In addition, the MPEP provides at § 2143.01 that:

> The mere fact that references can be combined or modified does
> not render the resultant combination obvious unless the prior art
> also suggests the desirability of the combination.
> (Emphasis in original).

As discussed above, the present Office Action essentially asserts that it would be obvious to modify Jayapalan by substituting a convolutional code for the Reed Solomon code that is mentioned in Jayapalan, in order "to improve communication reliability". However, Jayapalan is already using a Reed Solomon code, and the Office Action fails to establish that a person skilled in the art would have any basis for expecting that a convolutional code would provide better communication reliability than a Reed Solomon code. Jayapalan does not even mention a convolutional code, much less establish that a convolutional code provides better communication reliability over a Reed Solomon code. Consequently, the Office Action does not properly establish any motivation for making the proposed modification, much less explain how the prior art would serve as the basis for this motivation. In effect, the Office Action is asserting that the proposed modification of Jayapalan to meet Claims 9 and 18 would have been well within the ordinary skill of the art. Stated differently, the Office Action is effectively relying on the level of skill in the art to provide the suggestion to modify Jayapalan. However, this approach is directly prohibited by the provisions of MPEP §2143.01, which state that:

> FACT THAT THE CLAIMED INVENTION IS WITHIN THE
> CAPABILITIES OF ONE OF ORDINARY SKILL IN THE ART
> IS NOT SUFFICIENT BY ITSELF TO ESTABLISH *PRIMA
> FACIE* OBVIOUSNESS

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> A statement that modifications of the prior art to meet the claimed
> invention would have been " 'well within the ordinary skill of the
> art at the time the claimed invention was made' " because the
> references relied upon teach that all aspects of the claimed
> invention were individually known in the art is not sufficient to
> establish a *prima facie* case of obviousness without some objective
> reason to combine the teachings of the references. [Case citations
> omitted] . . . (The level of skill in the art cannot be relied upon to
> provide the suggestion to combine references).

Thus, the approach taken in the Office Action is an approach that is directly prohibited by the provisions of MPEP §2143.01. As noted above, the explanation of the §103 rejection essentially asserts that the proposed modification of Jayapalan to meet Claims 9 and 18 would have been within the capabilities of a person skilled in the art. However, as emphasized in MPEP §2143.01, this is not permissible, because the level of skill in the art cannot be relied upon to provide the suggestion for modifying teachings of a reference. The present §103 rejection of Claims 9 and 18 is therefore incomplete, because it fails to demonstrate the motivation that is required by the MPEP. In effect, the §103 rejection is based on hindsight of the present invention, rather than on motivation properly derived from what was known prior to the present invention. Accordingly, for this independent reason alone, it is respectfully submitted that Claims 9 and 18 are not rendered obvious under §103 by Jayapalan, and notice to that effect is respectfully requested.

In view of the various different reasons discussed above, it is respectfully submitted that Claims 9 and 18 are not rendered obvious under §103 by Jayapalan. Claims 9 and 18 are therefore believed to be allowable, and notice to that effect is respectfully requested.

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Appl. No. 09/762,991
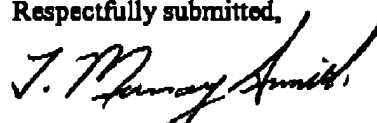Reply to Office Action of September 21, 2004

Attorney Docket No. RR2606 (22171.240)
Customer No. 27683

Conclusion

Based on the foregoing, it is respectfully submitted that all of the pending claims are fully allowable, and favorable reconsideration of this application is respectfully requested. If the Examiner believes that examination of the present application may be advanced in any way by a telephone conference, the Examiner is invited to telephone the undersigned attorney at 972-739-8647.

Although Applicant believe that no additional fee is due, the Commissioner is hereby authorized to charge any fee required by this paper, or to credit any overpayment, to Deposit Account No. 08-1394 of Haynes and Boone, LLP.

Respectfully submitted,

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